

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU2004/000784

A. CLASSIFICATION OF SUBJECT MATTER																	
Int. Cl. ?: F04D 29/22, 29/24, 7/04																	
According to International Patent Classification (IPC) or to both national classification and IPC																	
B. FIELDS SEARCHED																	
Minimum documentation searched (classification system followed by classification symbols) Refer electronic database consulted below																	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched																	
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) DWPI - keywords centrifugal pump, auxiliary, additional, shroud, enclosed, vane, blade and similar terms																	
C. DOCUMENTS CONSIDERED TO BE RELEVANT																	
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.															
X	US 5489187 A (RAY) 6 February 1996 Fig 1	1															
X Y	US 5165858 A (GILBERT et al) 24 November 1992 Column 6, lines 7-25, fig 6	1 2-11															
X	Derwent abstract accession No. 84-217836/35, class Q56, SU 1064047 A (ALEKSANDROV) 30 December 1983 Abstract	1															
Y	EP 567123 A1 (PRAXAIR TECHNOLOGY, INC.) 27 October 1993 Fig 1	2-11															
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C		<input checked="" type="checkbox"/> See patent family annex															
<p>* Special categories of cited documents:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; padding: 2px;">"A"</td> <td style="width: 10%; padding: 2px;">document defining the general state of the art which is not considered to be of particular relevance</td> <td style="width: 60%; padding: 2px;">"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td style="padding: 2px;">"E"</td> <td style="padding: 2px;">earlier application or patent but published on or after the international filing date</td> <td style="padding: 2px;">"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td style="padding: 2px;">"L"</td> <td style="padding: 2px;">document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td style="padding: 2px;">"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td style="padding: 2px;">"O"</td> <td style="padding: 2px;">document referring to an oral disclosure, use, exhibition or other means</td> <td style="padding: 2px;">"&amp;" document member of the same patent family</td> </tr> <tr> <td style="padding: 2px;">"P"</td> <td style="padding: 2px;">document published prior to the international filing date but later than the priority date claimed</td> <td style="padding: 2px;"></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed	
"A"	document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention															
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"P"	document published prior to the international filing date but later than the priority date claimed																
Date of the actual completion of the international search 29 July 2004	Date of mailing of the international search report 12 AUG 2004																
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized officer <b>R. SUBBARAYAN</b> Telephone No : (02) 6283 2377																

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4664592 A (GRZINA) 12 May 1987 Fig 4	2-11
A	US 3384026 A (WILLIAMSON, JR) 21 May 1968	
A	US 4883403 A (WALKER) 28 November 1989	
A	US 5921748 A (FRATER) 13 July 1999	

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/AU2004/000784**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report				Patent Family Member		
US 5489187	AU	72451/96	CA	2232735	GB	2320742
	NZ	319837	US	5591001	US	6036434
	US	6074554	WO	9713071	ZA	9608140
US 5165858	EP	0389149	US	5088893		
EP 0567123	BR	9301625	BR	9401335	CA	2094624
	CA	2120428	CN	1084614	CN	1101097
	EP	0645522	JP	6010603	JP	7102903
	US	5342171				
US 4664592	AU	30237/84	BR	8403492	CA	1240557
	GB	2143285	IN	161816	JP	60036800
	PH	22483				
US 3384026						
US 4883403	AU	80718/87	BR	8707496	CN	87106758
	EP	0288500	WO	8802820		
US 5921748	AU	47090/96	BR	9607465	CA	2214415
	EP	0812392	WO	9627085	ZA	9601552

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX